

**Figure 1**

Sequence information for five of the lactate utilising strains.

**S D6 1L/1**

GATGAACGCTGGCGGCGTGCCTAACACTGCAAGTCGAACGAAGCACCTTACCTGATTCTTCGGATGAA  
GGTCTGGTGACTGAGTGGCGGACGGGTGAGTAACGCGTGGGTAACCTGCCCTGTACAGGGGGATAACA  
GTTGGAAACGGCTGCTAATACCGCATAAGCGCACGAGAGGACATCCTCTTGTGTGAAAACTCCGGTG  
GTACAGGATGGGCCCGCGTCTGATTAGCTGGTTGGCAGGGTAACGGCCTACCAAGGCGACGATCAGTA  
GCCGGTCTGAGAGGATGAACGGCCACATTGGAACCTGAGACACGGTCCAACCTACATACGGGAGGCAGCAG  
TGGGGAATATTGCACAATGGGGGAAACCTGATGCAGCAACGCCGCGTGAGTGAAGAAGTATTTCCGT  
ATGTAAAGCTCTATCAGCAGGGAAGATAATGACGGTACCTGACTAAGAAGCTCCGGCTAAATACGTGC  
CAGCAGCCGCGGTAATACGTATGGAGCAAGCGTTATCCGGATTTACTGGGTGTAAAGGGTGCGTAGGT  
GGCAGTGCAAGTCAGATGTGAAAGGCCGGGGCTCAACCCCGGAGCTGCATTTGAAACTGCATAGCTAG  
AGTACAGGAGAGGCAGGCGGAATTCCTAGTGTAGCGGTGAAATGCGTAGATATTAGGAGGAACACCAG  
TGGCGAAGGCGGCCTGCTGGACTGTTACTGACACTGAGGCACGAAAGCGTGGGGAGCAAACAGGATTA  
GATACCCTGGTAGTCCACGCCGTAAACGATGAATACTAGGTGTGCGGGCCGTATAGGCTTCGGTGCCG  
TCGCAAACGCAGTAAGTATTCCACCTGGG  
GAGTACGTTTCGAAGAATGAAACTCAAAGGAATTGACGGGGACCCGCACAAGCGGTGGAGCATG  
TGGTTTTAATTGCAAGCAACGCGAAGAACCCTTACCAGGTCTTGACATCCTTCTGACCACTCCGTA  
ATGGGAGTCTTCCTTCGGGACAGAAGAGACAGGTGGTGCATGGTTGTGTCGTCAGCTCGTGTCGTG  
AGATGTTGGGTTAAGTCCCGCAACGAGCGCAACCCCTATCTTCAGTAGCCAGCAGGTAAGGCTG  
GGCACTCTGGAGAGACTGCCAGGGATAACCTGGAGGAAGGTGGGGACGACGTCAAATCATCATG  
CCCCTTATGATCTGGGCGACACACGTGCTACAATGGCGGTCAAAAGTGAGGCGAACCCTGCGAG  
GGGGAGCAAACCACAAAAAGGCCGTCCCAAGTTCGGACTGTAGTCTGCAACCCGACTACACGAAG  
CTGGAATCGCTAGTAATCGCGAATCAGAATGTCGCGGTGAATACGTTCCCGGGTCTTGTAACA  
CCGCCCGTCACACCATGGGAGTCGGAAATGCCCGAAGCCAGTGACCCAACCATATGGAGGGAGC  
TGTCGAAGGTGGAGCCGGTAACCTGGGGTG

**SM 6/1**

GATGAACGCTGGCGGCGTGCCTAACACATGCAAGTCGAACGAAGCACCTTACGAGATTCTTCGGATGA  
TCGTTTGGTGACTGAGTGGCGGACGGGTGAGTAACGCGTGGGTAACCTGCCCTGTACAGGGGGATAAC  
AGCTGGAAACGGCTGCTAATACCGCATAAGCGCACGAGGAGACATCTCCTAGTGTGAAAACTCCGGT  
GGTACAGGATGGGCCCGCGTCTGATTAGCTGGTTGGCAGGGTAACGGCCTACCAAGGCAACGATCAGT  
AGCCGGTCTGAGAGGATGAACGGCCACATTGGAACCTGAGACACGGTCCAACCTCCTACGGGAGGCAGC  
AGTGGGGAATATTGCACAATGGGGGAAACCTGATGCAGCAACGCCGCGTGAGTGAAGAAGTATTTCCG  
GTATGTAAAGCTCTATCAGCAGGGAAGATAATGACGGTACCTGACTAAGAAGCTCCGGCTAAATACGT

1 GCCAGCAGCCGCGGTAATAGATATGGAGCAAGCGTTATCCGGATTTACTGGGTGTAAAGGGTGCGTAG  
2 GTGGCAGTGCAGTCAAGTCAGATGTGAAAGGCCGGGGCTCAACCCCGGAGCTGCATTTGAAACTGCWYRGCT  
3 AGAGTACAGGAGAGGCAGGCGGAATTCCTAGTGTAGCGGTGAAATGCGTAGATATTAGGAGGAACACC  
4 AGTGGCGAAGGCGGCCTGCTGGACTGTTACTGACACTGAGGCACGAAAGCGTGGGGAGCAAACAGGAT  
5 TAGATACCCTGGTAGTCCACGCCGTAAACGATGAATACTAGGTGTCGGGGCCGTATAGGCTCCGGTG  
6 CGCCGCTAACGCAGTAAGTATTCCACCTGGGGAGTACGTTGCAAGAATGAAACTCAAAGGAATTGAC  
7 GGGGACCCGCACAAGCGGTGGAGCATGTGGTTTAATTGCAAGCAACGCGAAGAACCCTTACCAGGTCTT  
8 GACATCCTTCTGACCGCACCTTAATCGGTGCTTTCCTTCGGGACAGAAGAGACAGGTGGTGCATGGTT  
9 GTCGTCAGCTCGTGTCTGTGAGATGTTGGGTAAAGTCCCGCAACGAGCGCAACCCCTATCTTCAGTAGC  
10 CAGCAGGTAAGGCTGGGCACTCTGGAGAGACTGCCAGGGATAACCTGGAGGAAGGTGGGGACGACGTC  
11 AAATCATCATGCCCCCTTATGATCTGGGCGACACACGTGCTACAATGGCGGTACAGAGTGAGGCGAAC  
12 CCGCGAGGGGGAGCAAACCACAAAAGGCCGTCCAGTnCGGACTGTAGTCTGCAACCCGACTACACA  
13 GAAGCTGGAATCGCTAGTAATCGCGAATCAGAATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACA  
14 CCGCCCGTCACACCATGGGAGTCGGAAATGCCCGAAGCCAGTGACCCAACCTTTATGAAGGAAGCCnG  
15 TCCAAGGTTGAACCCGTAACTGGGGnnTT  
16

#### 17 Ss3/4

18 GAGTTTGATCCTGGCTCAGGATGAACGCTGGCGGCGTGCTAACACATGCAAGTCGAACGAGGT  
19 ATATTGAATTGAAGTTTTCGGATGGATTTCAATGATACCGAGTGGCGGACGGGTGAGTAACGCGTGGG  
20 TAACCTGCCTCATAAGGGGGATAACGGTTAGAAATGACTGCTAATACCGCATAAGCGCACA  
21 GTACCGCATGGTACGGTGTGAAAACTCCGGTGGTATGAGATGGACCCGCGTCTGATTAGCTAG  
22 TTGGTGGGGTAACGGCCACCAAGGCGACGATCAGTAGCCGACCTGAGAGGGTGACCGGCCACA  
23 TTGGGACTGAGACACGGCCAGACTCCTACGGGAGGCAGCAGTGGGGGATATTGCACAATGGAG  
24 GAAACTCTGATGCAGCGACGCCGCTGAGTGAAGAAGTATTTCCGTATGTAAAGCTCTATCAGC  
25 AGGGAAGAAAATGACGGTACCTGACTAAGAAGCCCCGGCTAACTACGTGCCAGCAGCCGCGGTA  
26 ATACGTAGGGGGCAAGCGTTATCCGGATTTACTGGGTGTAAAGGGAGCGTAGACGGCGACGCAA  
27 GTCTGAAGTGAAATACCCGGGCTCAACCTGGGAAC TGCTTTGGAAACTGTGTTGCTAGAGTGCT  
28 GGAGAGGTAAGCGGAATTCCTAGTGTAGCGGTGAAATGCGTAGATATTAGGAAGAACACCAGTG  
29 GCGAAGGCGGCTTACTGGACAGTAACCTGACGTTGAGGCTCGAAAGCGTGGGGAGCAAACAGGAT  
30 TAGATACCCTGGTAGTCCACGCCGTAAACGATGAATACTAGGTGTTGGTGAGCAAAGCTCATCG  
31 GTGCCGCCGCAAACGCAATAAGTATTCACCTGGGGAGTACGTTGCAAGAATGAAACTCAAAG  
32 GAATTGACGGGGACCCGCACAAGCGGTGGAGCATGTGGTTTAATTGCAAGCAACGCGAAGAAC  
33 CTTACCAAATCTTGACATCCCTCTGAAAARYCCYTAAATCGGRITTCCTCCTTCGGGACAGAGGT  
34 GACAGGTGGTGCATGGTTGTCGTGAGCTCGTGTGCTGAGATGTTGGGTAAAGTCCCGCAACGAG  
35 CGCAACCCCTATTGTCTAGTAGCCAGCAGGTGAAGCTGGGCACTCTGATGAGACTGCCAGGGATA  
36 ACCTGGAGGAAGGTGGGGATGACGTCAAATCATCATGCCCTTATGATTTGGGCTACACACGTG  
37 CTACAATGGCGTAAACAAAGAGAAGCGAGCCTGCGAGGGGGAGCAAATCTCAAAAATAACGTCT  
38 CAGTTCGGATTGTAGTCTGCAACTCGACTACATGAAGCTGGAATCGCTAGTAATCGCAGATCAG

1 AATGCTGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCACACCATGGGAGTCGGAA  
2 ATGCCCCGAAGCCAGTGAACCCAATGCGAAAGCAGGGAGCTGTCTGAAGGCAGGTCTGATAACTGGGGTG

4 **Ss2/1 and Ssc/2**

5 AGAGTTTGATCCTGGCTCAGGATGAACGCTGGCGGCGTGCTTAACACATGCAAGTCGAACGAAA  
6 CACCTTATTTGATTTTCTTCGGAACCTGAAGATTTGGTGATTGAGTGGCGGACGGGTGAGTAACG  
7 CGTGGGTAACCTGCCCTGTACAGGGGGATAACAGTCAGAAATGACTGCTAATACCGCATAAGAC  
8 CACAGCACCGCATGGTGCAGGGGTAAAACTCCGGTGGTACAGGATGGACCCGCGTCTGATTAG  
9 CTGGTTGGTGAGGTAAACGGCTCACCAAGGCGACGATCAGTAGCCGGCTTGAGAGAGTGAACGGC  
10 CACATTGGGACTGAGACACGGCCAAACTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAAT  
11 GGGGGAACCCCTGATGCAGCGACGCCGCGTGAGTGAAGAAGTATCTCGGTATGTAAAGCTCTAT  
12 CAGCAGGGAAGAAAATGACGGTACCTGACTAAGAAGCCCCGGCTAACTACGTGCCAGCAGCCGC  
13 GGTAATACGTAGGGGGCAAGCGTTATCCGGAATTACTGGGTGTAAAGGGTGCGTAGGTGGTATG  
14 GCAAGTCAGAAGTGAACCCAGGGCTTAACTCTGGGACTGCTTTTGAAACTGTCAGACTGGAG  
15 TGCAGGAGAGGTAAGCGGAATTCCTAGTGTAGCGGTGAAATGCGTAGATATTAGGAGGAACATC  
16 AGTGGCGAAGGCGGCTTACTGGACTGAACTGACACTGAGGCACGAAAGCGTGGGGAGCAAAACA  
17 GGATTAGATACCCCTGGTAGTCCACGCCGTAAACGATGAATACTAGGTGTCGGGGCCGTAGAGGC  
18 TTCGGTGCCGCAGCCAACGCAGTAAGTATTCCACCTGGGGAGTACGTTTCGCAAGAATGAACTCA  
19 AAGGAATTGACGGGGACCCGCACAAGCGGTGGAGCATGTGGTTTAATTGCAAGCAACGCGAAGA  
20 ACCTTACCTGGTCTTGACATCCTTCTGACCGGTCTTAAACCGGACCTTTCCTTCGGGACAGGAG  
21 TGACAGGTGGTGCATGGTTGTCTGTCAGCTCGTGTCTGTGAGATGTTGGGTAAAGTCCCGCAACGA  
22 GCGCAACCCCTATCTTTAGTAGCCAGCATATAAGGTGGGCACCTCTAGAGAGACTGCCAGGGATA  
23 ACCTGGAGGAAGGTGGGGACGACGTCAAATCATCATGCCCCCTTATGACCAGGGCTACACACGTG  
24 CTACAATGGCGTAAACAGAGGGAAGCAGCCTCGTGAGAGTGAGCAAATCCCAAAAATAACGTCT  
25 CAGTTCGATTTGTAGTCTGCAACTCGACTACATGAAGCTGGAATCGCTAGTAATCGCGAATCAG  
26 AATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCACACCATGGGAGTCAGTA  
27 ACGCCCCAAGTCAGTGACCCAACCGTAAGGAGGAGCTGCCGAAGCGGGACCGATAACTGGGGTG  
28 AAGTCGTAACCAGGTAGCCGT

30 W = A or T

31 Y = T or C

32 R = G or A

33 N = Unknown

Co-culture on starch

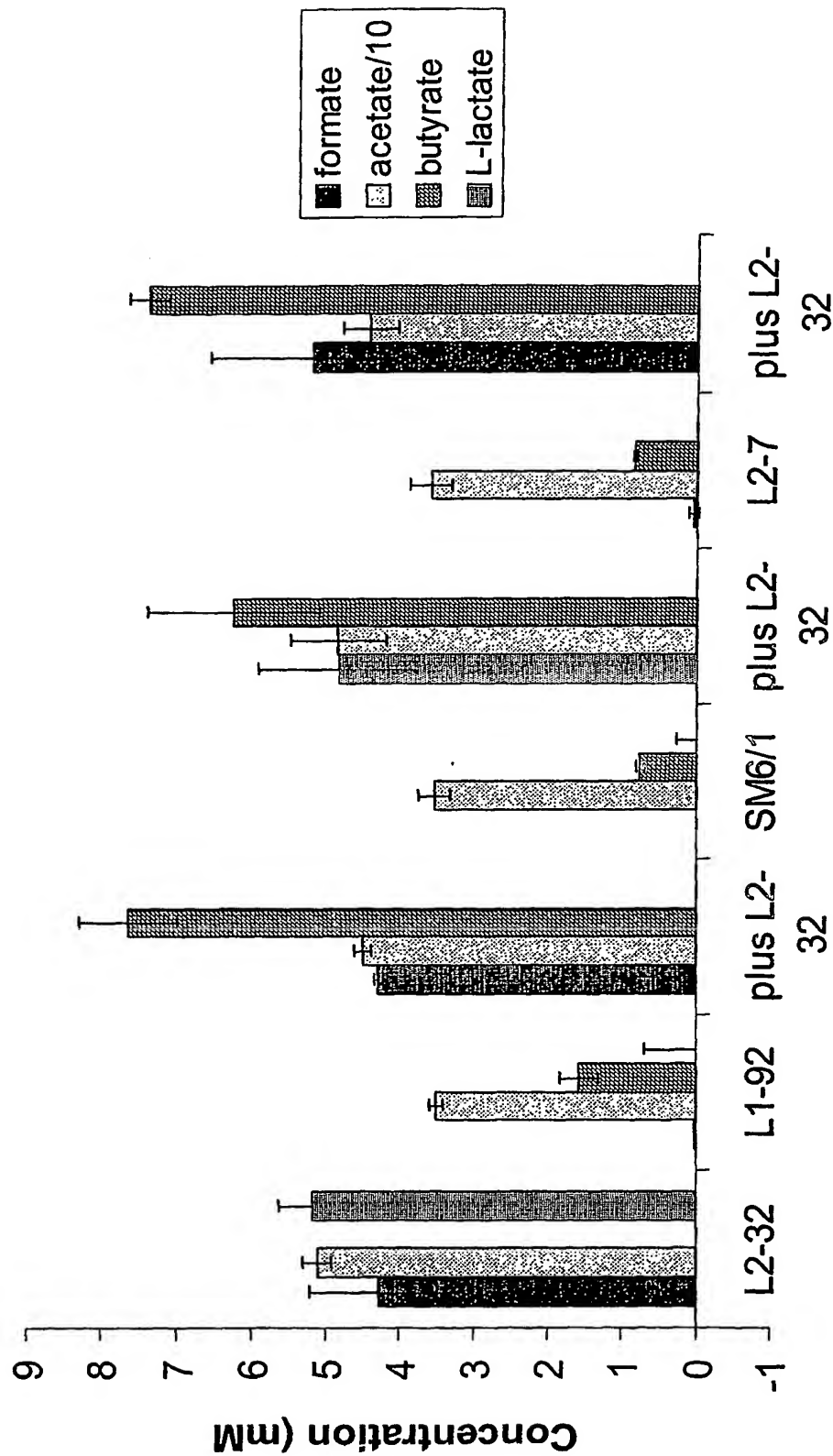


Fig. 2

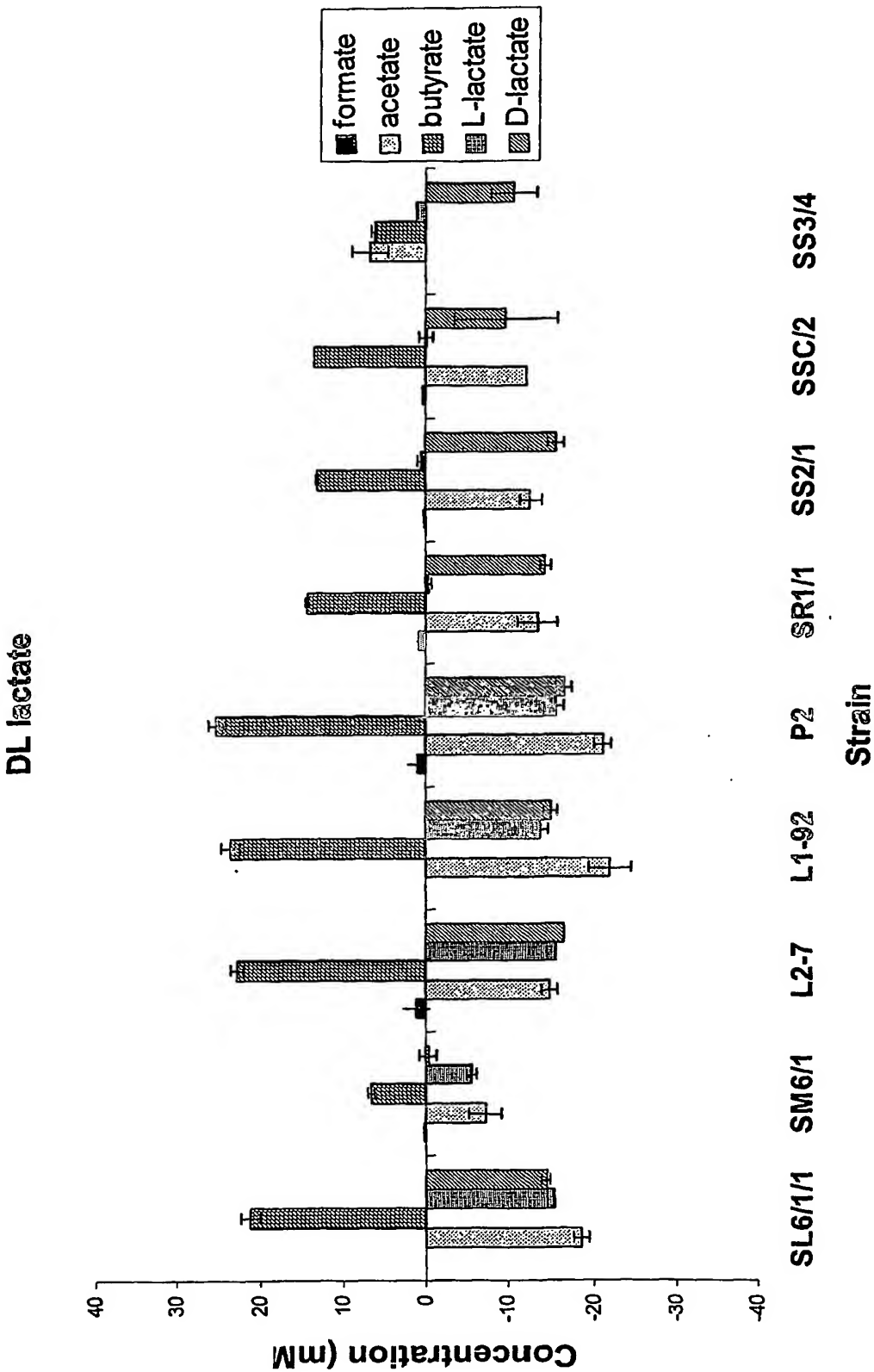


Fig. 3a

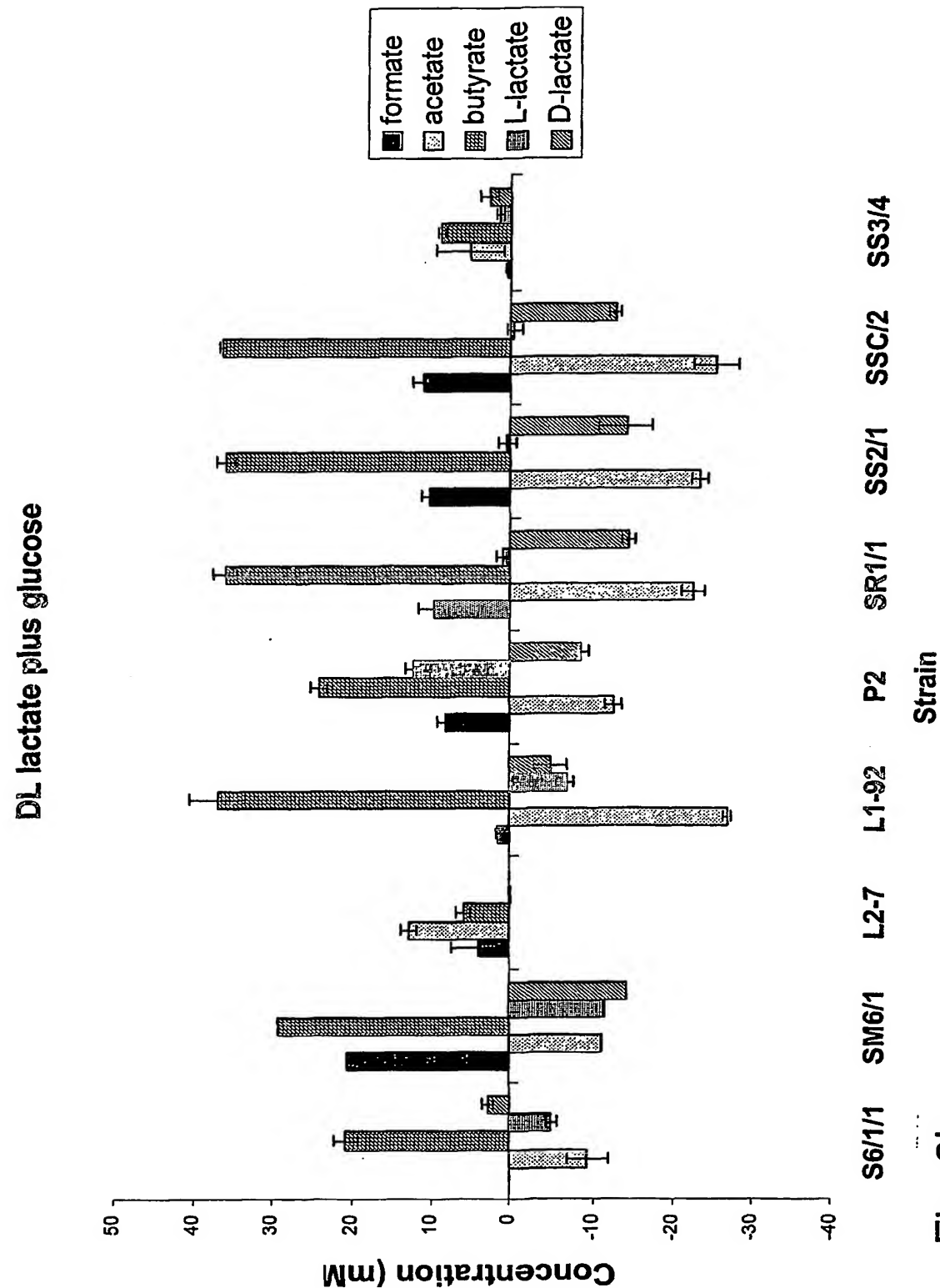


Fig. 3b

No addition

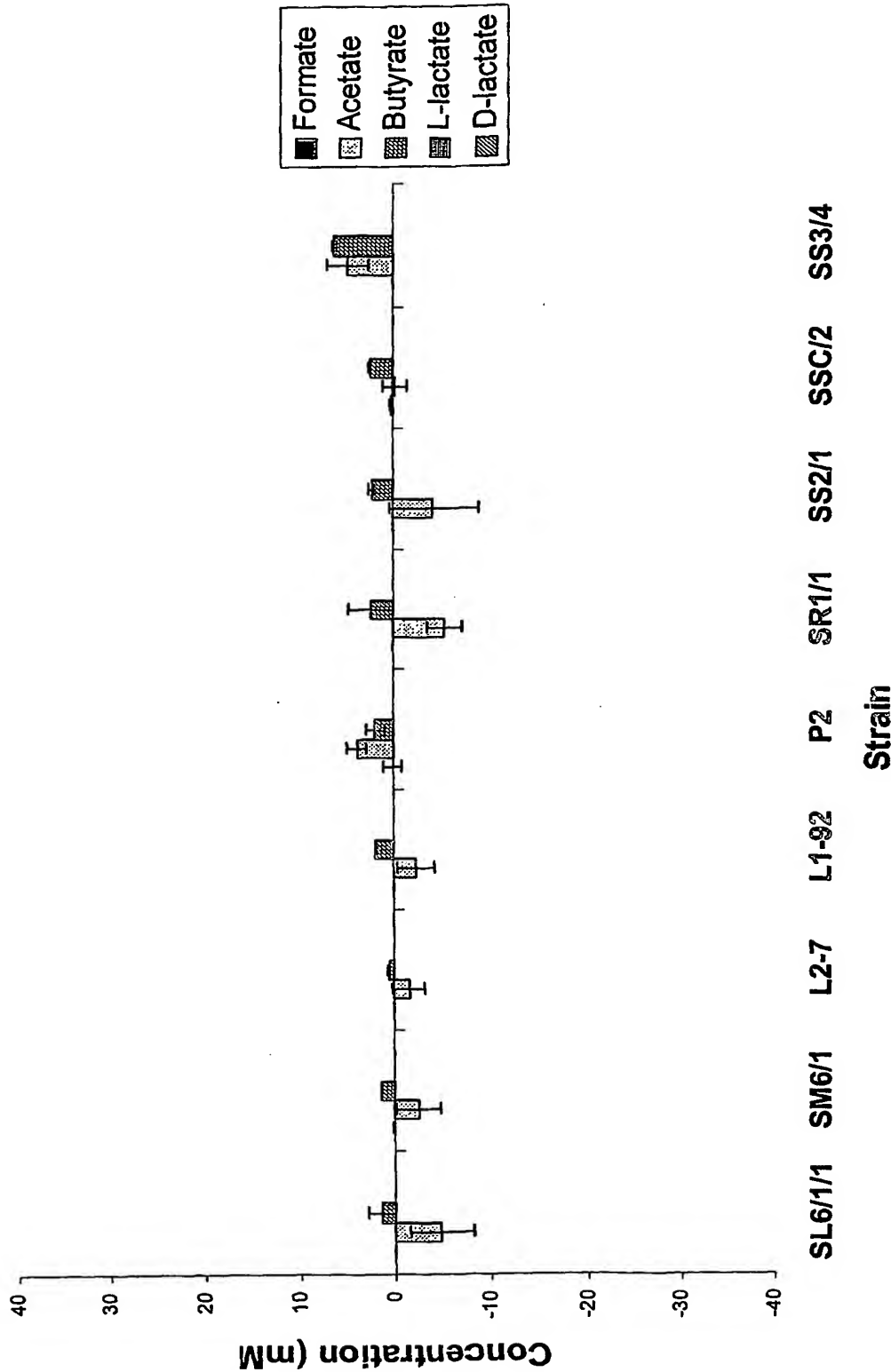


Fig. 3c

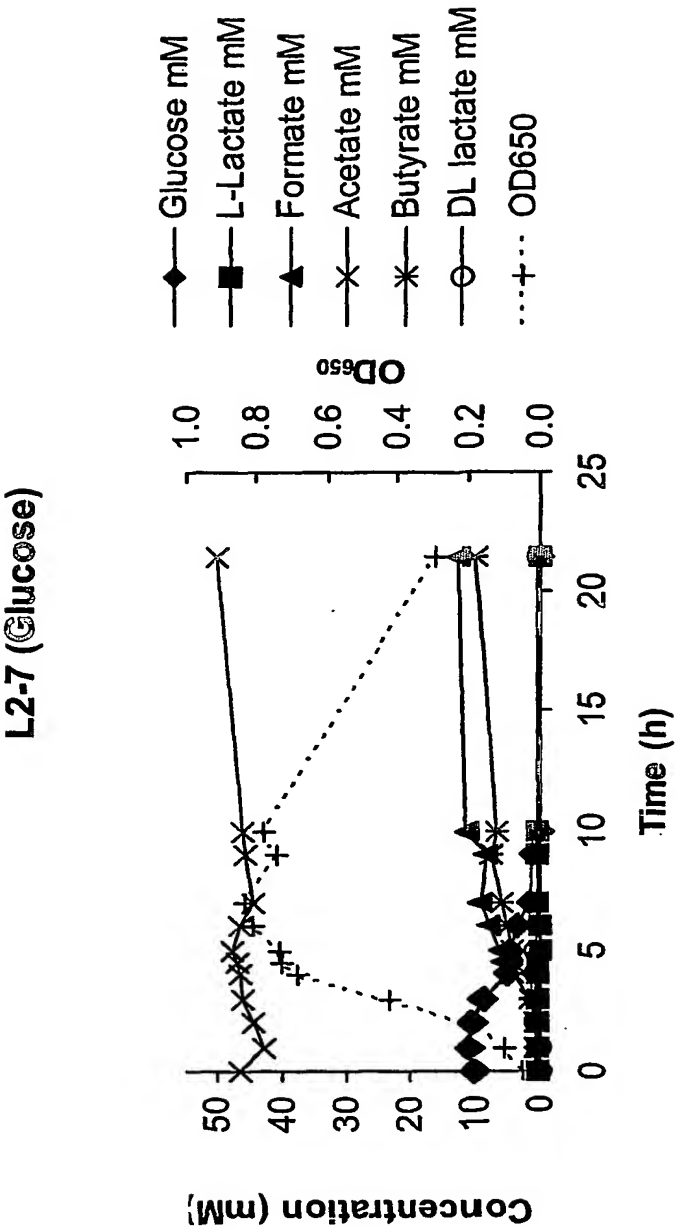


Fig. 4

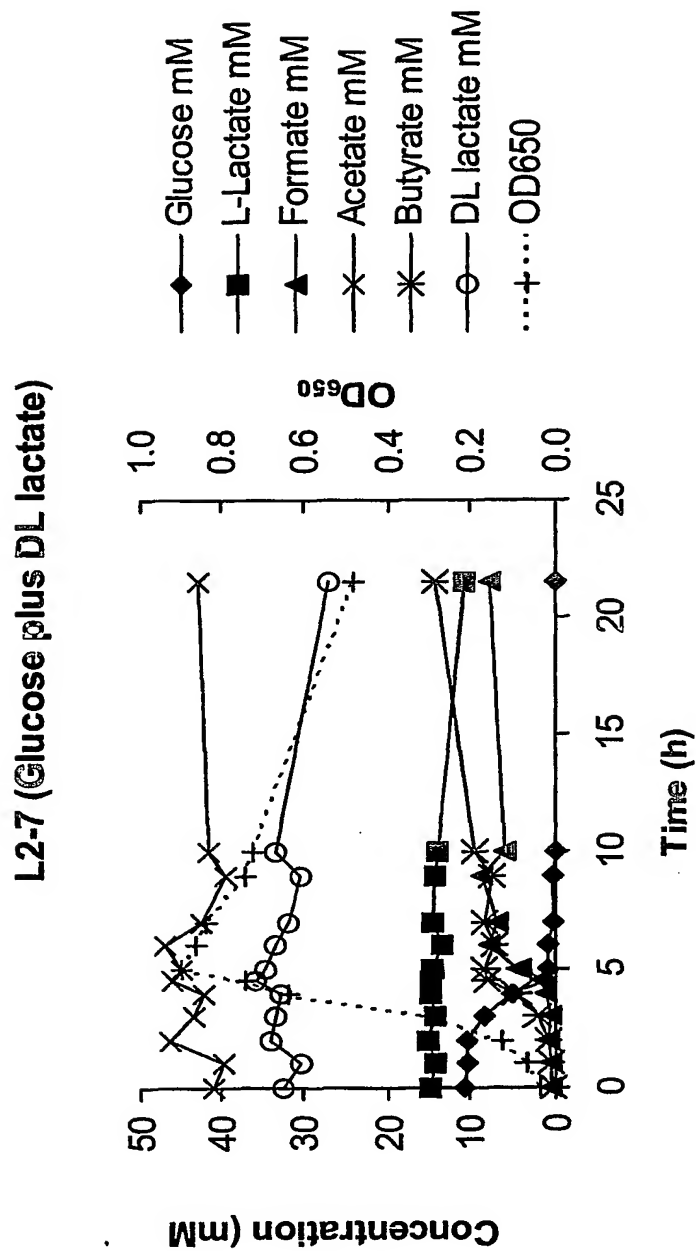


Fig. 4 continued

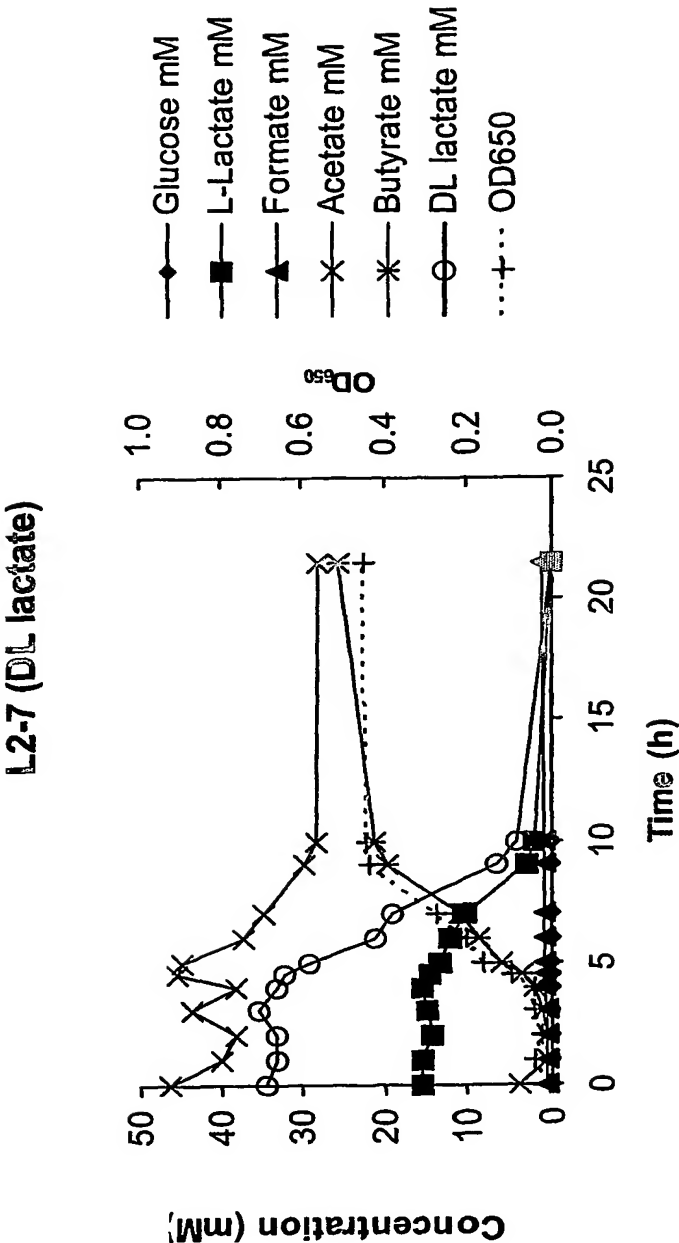


Fig. 4 continued

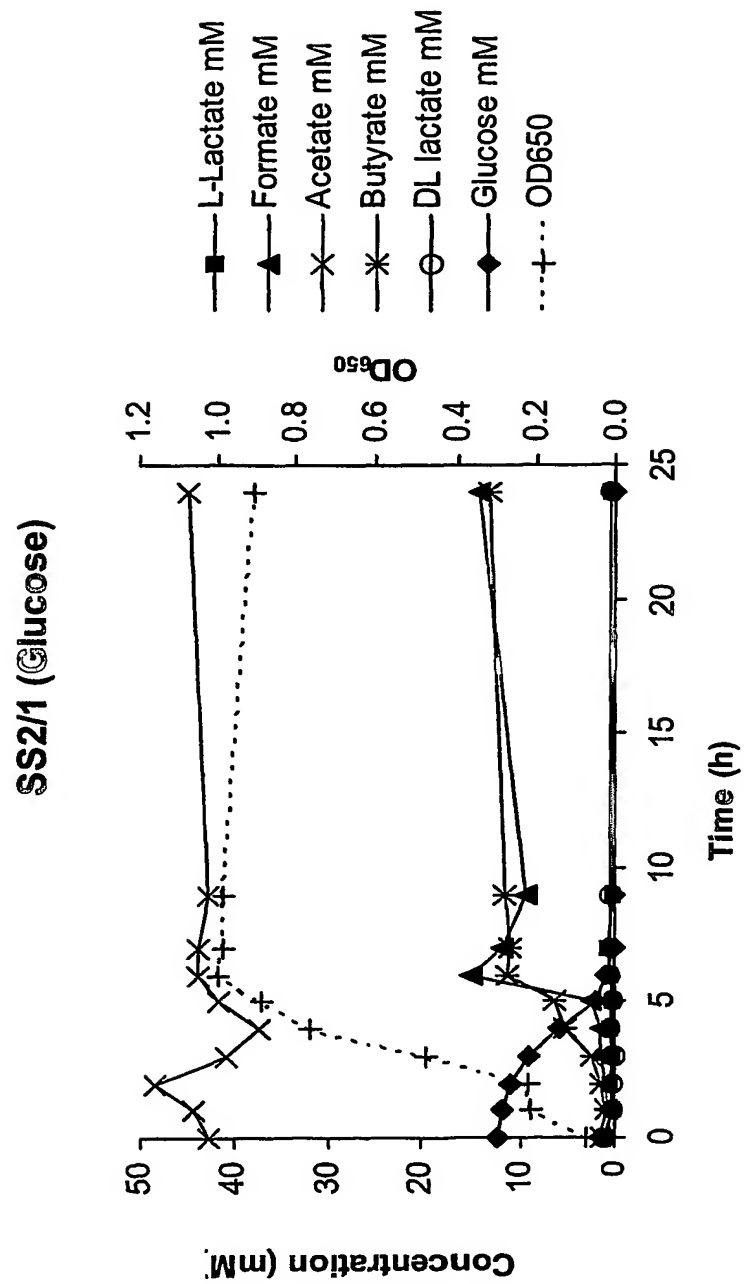


Fig. 5

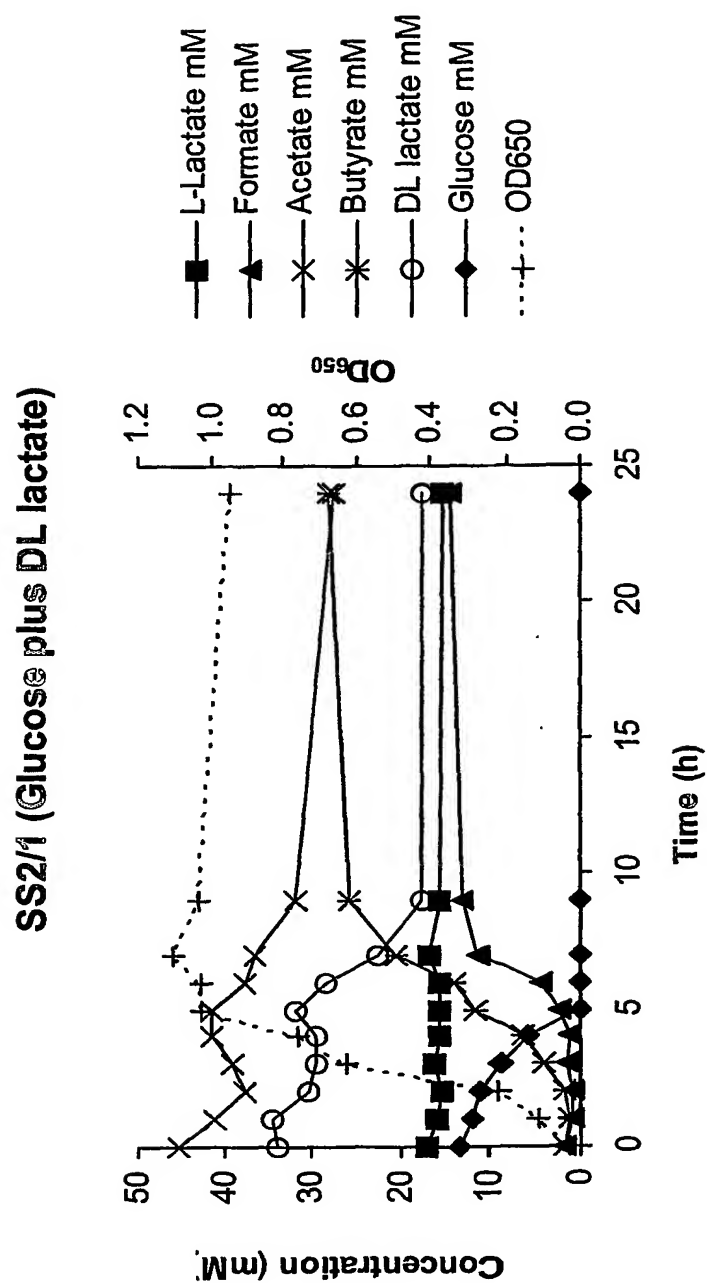


Fig. 5 continued

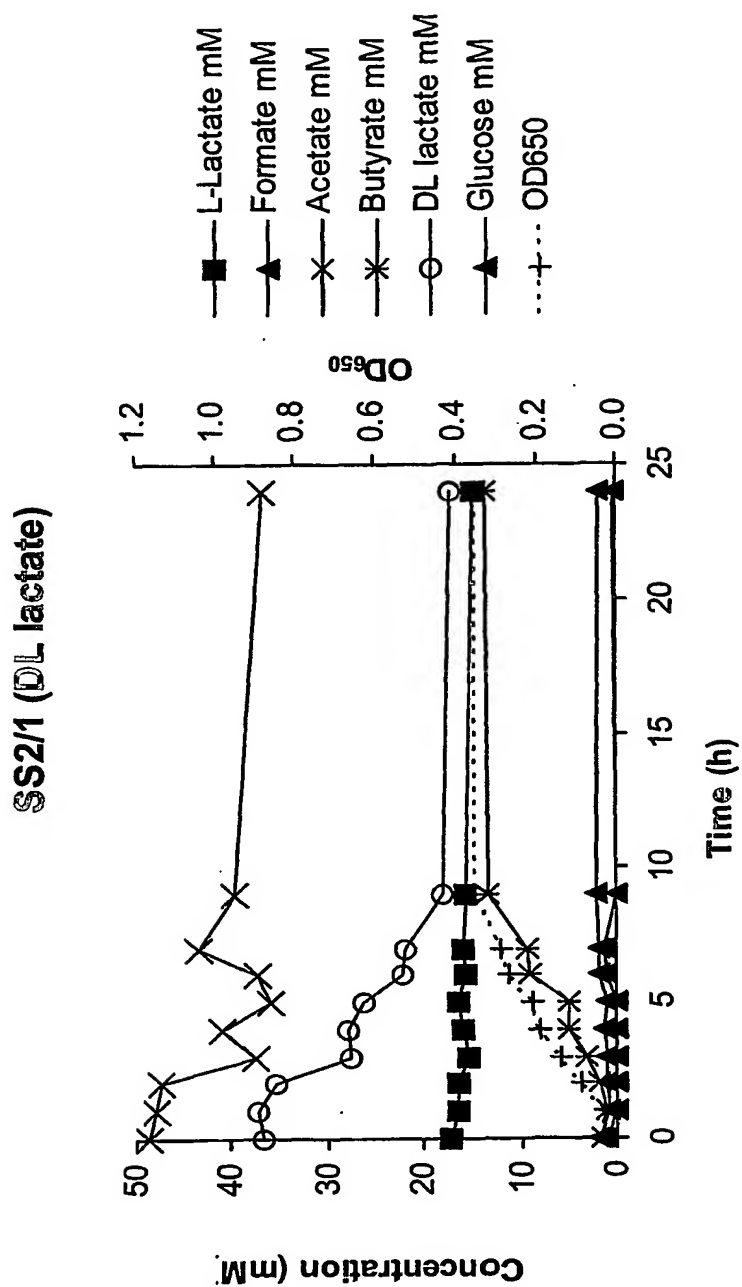


Fig. 5 continued